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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/872,473	06/01/2001	Wenhua Lin	LIGHT1960	9503

7590 11/12/2003  
TRAVIS DODD  
2490 HEYNEMAN HOLLOW  
FALLBROOK, CA 92028

EXAMINER
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DOAN, JENNIFER

ART UNIT	PAPER NUMBER
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2874

DATE MAILED: 11/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/872,473

Applicant(s)

LIN, WENHUA

Examiner

Jennifer Doan

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 30-34 is/are allowed.
- 6) ☒ Claim(s) 1, 4, 15-17, 20, 23, 27, 28 and 35 is/are rejected.
- 7) ☒ Claim(s) 2, 3, 5-14, 18, 19, 21, 22, 24-26, 29 and 36-40 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s): \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Drawings***

1. The drawings, filed on 06/01/2001, are objected.

### ***Specification***

2. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 4, 15-17, 20, 23, 27, 28 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Himeno et al. (U.S. Patent 5,943,452).

Himeno et al. disclose, in Fig. 3, a method and an apparatus of an optical array waveguide grating having a plurality of array waveguides (12), each has an effective length; a component (16) configured to receive portions of a light signal from the array waveguide grating (12) and combine portions of the light signal into an output light

signal (17); at least a portion of the array waveguides (12) including effective length tuners positioned adjacent to a plurality of the array waveguides for tuning the effective lengths of the array waveguides (as shown in Fig. 3 and column 4, line 52 – column 5, line 57); wherein the component (16) has an input side and an output side, the array waveguide grating (12) being connected to the input side and the array waveguides have lengths selected such that light signals of different regions of the output side (as shown in Fig. 3).

Himeno et al. disclose all the limitations of the claimed invention except the dispersion profile of the output light signal is tuned when the effective lengths of the array waveguides are tuned as recited in claims 1, 17, 20 and 35. Although Himeno et al. do not explicitly teach the dispersion profile of the output light signal is tuned, Himeno et al. mainly disclose an adjustment of the array waveguide lengths. When the array waveguide grating lengths are adjusted, the light distribution from the input port to the output port would be affected; therefore, it would possess a dispersion profile (having a different dispersion profile from the input profile). Thus, the dispersion profile of the output light signal is inherently tuned in Himeno's disclosure.

#### ***Allowable Subject Matter***

5. Claims 2, 3, 5-14, 18, 19, 21, 22, 24-26, 29 and 36-40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 30-34 are allowed.

The prior art of record fails to disclose or reasonably suggest a dispersion compensator comprising **electronics for tuning the effective length tuners** such that the dispersion profile of the output light signal changes as recited in claim 30; wherein each **effective length is configured to change the temperature of an array waveguide** as recited in claims 2 and 21 and **drive a current through an array waveguide** as recited in claims 3 and 22; and further the array waveguides are associated with an array waveguide index  $j$ , and **the lengths of the array waveguides including one or more exponential functions having a base that is a function of the array waveguide index  $j$**  as recited in claims 5, 9, 13, 18, 24-26, 29 and 36.

Claims 31-34 are dependent on the allowable claim 30.

Claims 6-8, 10-12, 14, 19 and 37-40 are dependent on the objected claims 5, 9, 13, 18 and 36.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Dragone (U.S. Patent 5,467,418), Ogusu et al. (U.S. Patent 5,799,118), Akiba et al. (U.S. Patent 5,841,919) and Han et al. (U.S. Patent 6,188,818) disclose an array waveguide grating. Saito et al. (U.S. Patent 6,377,723) and Lowery et al. (WO 99/45420) disclose an array waveguide grating for dispersion compensation.

7. The prior art documents submitted by applicant in the Information Disclosure Statement filed on 03/06/2002 have all been considered and made of record (note the attached copy of form PTO-1449).

8. Any inquiry concerning the merits of this communication should be directed to Examiner Jennifer Doan whose telephone number is (703) 308-6179. The examiner can normally be reached on Monday to Friday from 6:00 am to 3:30pm, second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick, can be reached on (703) 308-4819. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JD

October 31, 2003

  
PHAN T. H. PALMER  
PRIMARY EXAMINER